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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,659

10/31/2003

James A. Leistra

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EXAMINER

TSOY, ELENA

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

07/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/698,659	<b>Applicant(s)</b> LEISTRA ET AL.	
	<b>Examiner</b> Elena Tsoy Lightfoot	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-40 is/are pending in the application.
- 4a) Of the above claim(s) 4, 13, 16-23, 28, 30-36, 39 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 14, 24-27, 29, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

***Request for Reconsideration***

The Request for Reconsideration filed on April 8, 2008 has been entered. Claims 1-14, 16-40 are pending in the application. Claims 4, 13, 16-23, 28, 30-36, and 39-40 are withdrawn from consideration as directed to a non-elected invention.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-9, 11-12, 14, 24-27, 29, and 37-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wessel et al (US 20030008196) in view of Cadaval Fernandez De Leceta et al (US 6685806) for the reasons of record set forth in paragraph 2 of the Office Action mailed on 1/8/2008.

3. Claims 1-3, 5-9, 11-12, 14, 24-27, 29, and 37-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Asukabe et al (US 6,335,112) in view of Wessel et al, further in view of Cadaval Fernandez De Leceta et al for the reasons of record set forth in paragraph 3 of the Office Action mailed on 1/8/2008.

4. Claims 1-3, 5-9, 11-12, 14, 24-27, 29, and 37-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Menjak et al (US 20030059664) in view of Wessel et al, further in view of Cadaval Fernandez De Leceta et al for the reasons of record set forth in paragraph 4 of the Office Action mailed on 1/8/2008.

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5. Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Wessel et al in view of Cadaval Fernandez De Leceta et al/Asukabe et al in view of Wessel et al, further in view of Cadaval Fernandez De Leceta et al/Menjak et al in view of Wessel et al, further in view of Cadaval Fernandez De Leceta et al/, and further in view of Nakawa et al (JP 07024315) for the reasons of record set forth in paragraph 6 of the Office Action mailed on 2/16/2007 and for the reasons discussed above for the reasons of record set forth in paragraph 5 of the Office Action mailed on 1/8/2008.

### ***Response to Arguments***

Applicant's arguments filed April 8, 2008 have been fully considered but they are not persuasive.

(A) The Examiner interprets the teachings of Wessel et al. as teaching electrodes with deperoxidation-active compound and/or element provided on the electrode, and stresses that this can be provided by impregnation. As discussed previously, it is again stressed that this does not equate to the teaching of a layer as called for in the claims of the present application.

The Examiner respectfully disagrees with this argument. Wessel et al teaches a deperoxidation-active compound (See P27) may be provided on the electrode (See P13) in the form of a *coating on* the electrodes 2 (See P30). Thus, in contrast to Applicants argument, the deperoxidation-active compound coating (layer) reads on claimed layer of peroxide decomposition catalyst.

(B) Applicants submit that Wessel et al. likewise does not teach that the layer has a porosity which is less than the porosity of the adjacent electrode. Discussing the '806 patent, the Examiner states that the '806 patent teaches that the porosity of the electrode layer decreases in the direction of a cation-exchange membrane with a porosity gradient of 5-15% per 1 micron. The Examiner has focused on this teaching without considering the teaching as a whole. The teaching cited by the Examiner in the abstract and column 6, lines 50-54, teach that such electrodes have a porosity between 40 and 70% decreasing in the direction of the membrane, and that this decrease is with a porosity gradient from 5-15%. In other words, the porosity varies between 70 and 40%. Nowhere does this teach anything less than 20% as called for by the present claims. Further, this is porosity within the electrode, and not in an adjacent layer. It is respectfully submitted that these are clear distinctions between the '806 patent and the subject matter of the present claims, particularly where the '806 patent is being cited for supposedly

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relevant teaching. Based upon the foregoing, it is submitted that the combination of Wessel et al. and the '806 patent clearly fails to meet the claimed subject matter. Independent claims 1 and 25 each clearly call for this separate layer having a porosity which is both less than 20% and less than the adjacent electrode, and this is clearly not met by the teachings of Wessel et al. and the newly cited '806 patent.

The Examiner respectfully disagrees with this argument. The '806 teaches that formation of the layer with porosity that decreases in the direction of cation-exchange membrane with a porosity gradient of 5-15% per 1  $\mu$ p improves the electrochemical characteristics of MEA (See column 6, lines 50-55, wherein *general* porosity **preferably** 40-70% (See column 6, lines 64-66). In other words, the porosity gradient improves the electrochemical characteristics of MEA at general porosity outside preferred range of 40-70%. Therefore, in contrast to Applicants argument, obviously porosity gradient would improve at any reasonable porosity of the electrode including claimed porosity of 20 % or less.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429.

The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy-Lightfoot, Ph.D.  
Primary Examiner  
Art Unit 1792

July 28, 2008

/Elena Tsoy Lightfoot/

Primary Examiner, Art Unit 1792